# VAI and IBM: manufacturing efficiency

*A fully integrated enterprise platform specifically designed to help manufacturers streamline efficiency, control inventory and optimize costs*

## Highlights:

- Complete suite of applications to manage every aspect of manufacturing operations

- Integration allows modules to provide a complete picture of materials, processes and capacity

- Unified data repository provides a single version of the truth for decision making

- Realtime data from the shop floor provides insight into work center productivity

- Powered by robust, reliable and highly capable IBM computing systems

Under intense competitive pressure, manufacturers are seeking every conceivable opportunity to streamline operations, improve efficiency and reduce costs. Supply chain challenges are demanding, from maintaining relationships with global suppliers to managing diverse internal production facilities. Cycle times are long, but markets conditions require a quick response.

Enterprise management software is a critical tool for addressing all of these issues and improving profitability in complex manufacturing environments. But not all solutions are the same. Successful offerings must be designed for manufacturing, be highly configurable and easy to use. They must be integrated, not assembled from disparate applications. They must unify data and present a coherent view of the enterprise.

Manufacturers can look to IBM and Vormittag Associates, Inc. (VAI) for a comprehensive solution that meets all of these criteria, delivering the tools to manage and analyze every aspect of the business with speed, precision and clarity.

## Solution Overview

The core of the solution is S2K Manufacturing Software, a fully integrated suite of applications from VAI, specifically engineered for manufacturing. These modules were developed in concert and built to work together, so users can expect smooth performance, common interfaces for every application, and high reliability.

Most important, all S2K modules work from one data repository, enabling decision makers across the enterprise to work from a single version of the truth about materials, inventory, orders, productivity, shipping and more. This means no more time lost searching for data in separate silos, no resources devoted to keeping multiple databases in sync, and no more critical decisions based on incomplete or inaccurate information.
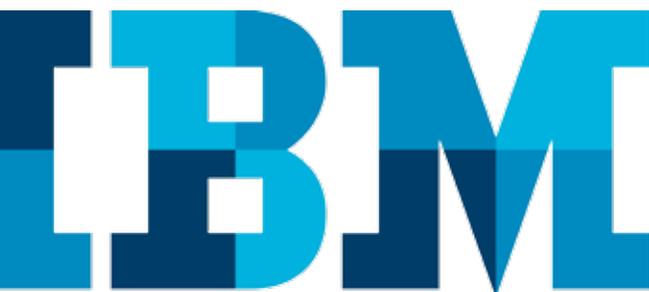
S2K Manufacturing Software is designed to run on high-powered IBM computing platforms deployed on site or in the cloud, including IBM PureSystems — a family of expert integrated systems that redefine how enterprise-level IT solutions are designed and implemented.

IBM PureSystems are built for the cloud, and "scale in" with integrated provisioning, elasticity and virtualization to improve efficiency and reduce costs. Because PureSystems offer embedded expertise, tight integration of the entire solution stack and a simplified user experience, they effectively allow IT staff to focus on driving innovation for the organization instead of devising, testing and tuning custom integrations.

Whether manufacturers are discrete, or process, make to stock or make to order, the solution from IBM and VAI covers all manufacturing and assembly processes from order to production and beyond. Just a few of these modules include:

- **Work order processing.** This module allows manufacturers to generate orders to stock, made to order, or planned orders. It shows order status, including downstream effects on scheduling and other functions. The module supports multiple bills of material for a single item. Workflow triggers help enforce work practices related to design, manufacturing and support, notifying management of critical issues via conditional e-mail. Production costs are posted to the general ledger, and manufacturing variances are calculated for material, labor and overhead.
- **Material requirements planning (MRP).** Designed to help purchasing and production managers analyze current and future material and distribution requirements, this module enables more effective planning. It analyzes existing stock status of all raw materials and finished goods. This allows organizations to determine precisely when and how much material should be purchased or manufactured, based on a time-phased analysis of sales orders, production orders, purchase orders, current inventory levels and forecasts.
- **Shop floor control.** Manufacturers can use this module to record both material and labor usage directly from the shop floor, using hand-held scanners or RF devices for data collection. Using this realtime data stream, the module updates a manufacturing order's requirements planning, to determine available capacity for any given department, work center or machine.

Extensive inquiries and reporting show employee productivity, as well as variances in material.

- **Product quality.** This application allows manufacturers to track user-defined tests, results and the disposition of an item throughout the manufacturing process. For raw materials, received lots are placed on quality hold pending testing. Until all tests have been passed, the product can neither be consumed in manufacturing nor sold. Within manufacturing, quality tests can be required upon completion or following specific production steps.
- **Capacity requirements planning (CRP).** The CRP module helps determine ability to meet demand, enabling manufacturers to recognize when capacity is short or long and then shift production and manage resources accordingly. Users can view soft, firm, planned and suggested demand levels, as well as view detailed analyses of actual, projected and suggested capacity requirements. Changes affect the production schedule immediately. Because this module is so flexible (and tightly integrated with other modules), it can be used for long-range planning as well as short-term production scheduling.
- **Finite scheduling.** Keep a tight grip on timelines with this module, which creates a finite capacity schedule based on the planned capacity reflected in the shop calendar for each department, work center and machine. By establishing rules for each production facility, this module generates a schedule of orders using a finite forward method. Rules may include data from virtually any field. Orders can also be sequenced by users to minimize setup time and maximize resource capacity.

## Solution Benefits

Together, IBM and VAI help manufacturers gain insight into complex, fast-moving operations. This delivers powerful advantages:

- **Precise inventory control.** As one of manufacturers' largest expenses, inventory must be managed effectively to protect profitability. The IBM and VAI solution gives manufacturers the ability to keep inventory at the optimum levels, avoid overstocks and ensure production facilities have exactly what they need to meet demand, even as market conditions change.
- **Lower costs.** The solution helps manufacturers see a more complete picture of the total cost of manufactured goods. Because product costing is fully integrated with accounting, the solution makes it easy to track all of the factors that affect cost and to find ways to maximize margins.
- **Higher efficiency.** By combining realtime data from the shop floor with a detailed picture of capacity, the solution enables manufacturers to identify bottlenecks quickly, analyze trends in productivity across work centers, and take corrective action to boost production efficiency.

## VAI and IBM: a closer look

Because they are all designed to work together, S2K Manufacturing Software, IBM computing systems and IBM software deliver superior reliability and performance. IBM components of the solution may include:

- **IBM PureFlex™.** The PureFlex System combines compute, storage, networking, virtualization and management into a single infrastructure system that is expert at sensing and anticipating resource needs to optimize infrastructure. It includes integrated patterns of expertise designed to automate and enhance the deployment and maintenance of workloads, supporting 66 percent faster management setup time.
- **IBM POWER7 Systems™.** These systems deliver unprecedented performance for both transactional and throughput computing for UNIX, IBM i and Linux applications with up to four times the performance and workload consolidation capacity, and three times the performance per watt of POWER6® processor-based systems.
- **IBM WebSphere® Application Server.** This software speeds the delivery of applications and services, enabling businesses to operate efficiently and reliably while ensuring security and control. It reduces costs and downtime by consolidating workloads, infrastructure and administrative tasks with enhanced web server load-balancing and failover.

- **IBM Cognos® Business Intelligence.** This software provides a wide range of functionality to help organizations understand their own data. It helps monitor and measure how companies are performing with business intelligence capabilities such as scorecards, dashboards, reports and realtime monitoring.

The solution from IBM and VAI empowers manufacturers to operate more efficiently, respond more quickly to changing market conditions and identify opportunities to strengthen margins.

## VAI and IBM: driving efficiency

### VAI

Widely recognized as an industry leader, VAI is an award-winning software developer chosen for the 2012 Beacon Award for Midsize Businesses. VAI is a trusted IBM partner, providing cutting-edge technology proven to streamline and optimize business capabilities. VAI's technology roadmap, a shared vision with IBM, provides companies with a business model, based on best industry processes, that leverages technology to create value and improve performance. The S2K family of products includes solutions for distribution, manufacturing, retail, service and rental companies.

### IBM

Through hardware, software and service offerings, IBM provides a rich portfolio of solutions to help manufacturers streamline production, operate more efficiently, improve planning and scheduling, and implement more fine-grained and flexible decision making processes. As the leader in optimization and technology, IBM helps manufacturers make the most of Enterprise Resource Planning (ERP) and supply chain applications by extending analytic capabilities, making better decisions, improving order management and purchasing, plus many other capabilities.

## For more information

To learn more about IBM in information management, contact your IBM sales rep or visit:

www-01.ibm.com/software/brandcatalog/puresystems/centre/details?uid=GSD_28327

To learn more about VAI, please visit:

www.vai.net

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